

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



August 16, 2016

GI-2015-09-SDG47-02A

Jimmie Cho, Senior Vice President  
Gas Operations and System Integrity  
Southern California Gas Company  
555 West 5<sup>th</sup> Street, GT21C3  
Los Angeles, CA 90013

**Subject: General Order (GO) 112<sup>1</sup>, Operation and Maintenance Inspection of San Diego Gas and Electric (SDGE) Company's North Construction & Operations Gas Distribution Region (consist of Districts of North-Coast and North-East)**

Dear Mr. Cho:

On September 28 to October 2, 2015, the California Public Utilities Commission Safety and Enforcement Division (SED) conducted a GO 112<sup>1</sup> Cathodic Protection Operation and Maintenance Inspection of SDGE's Distribution Facilities in the North Construction & Operations Region (Inspection Unit). The inspection included records review and field verifications of the Inspection Unit's Cathodic Protection systems (CP), Bridges and Span (BS), and Exposed Pipeline Facilities (AC) for calendar years 2013 and 2014. SED staff also reviewed the Inspection Unit's Operator Qualification records and observed randomly selected individuals performing covered tasks.

Attached is SED's Summary of Inspection Findings, under GO 112<sup>1</sup>, Reference Title 49 Code of Federal Regulations (CFR), Part192. ”

Please provide a written response within 30 days of receipt of this letter indicating any updates or corrective actions taken by SDGE. Pursuant to Commission Resolution ALJ-274, SED staff has the authority to issue citations for each violation discussed during the inspection. SED will notify SDGE of the enforcement action it plans to take after it reviews SDGE's response.

If you have any questions, please contact Randy Holter, at (213) 576-7153.

Sincerely,

A handwritten signature in blue ink that reads "Kenneth A. Bruno".

Kenneth Bruno  
Program Manager  
Gas Safety and Reliability Branch  
Safety and Enforcement Division

CC: Randy Holter, SED/GSRB  
Matthewson Epuna, SED/GSRB  
Jeff Koskie, Sempra

<sup>1</sup> General Order 112-F was adopted by the Commission on June 25, 2015 via Decision 15-06-044.

**Summary of Inspection Findings**  
**2015 SDG&E North Construction & Operations Distribution Region Inspection**  
**September 28 – October 2, 2015**

**I. SED Identified Probable Violations**

**1). Title 49 CFR §192.465(d) – External Corrosion Control: Monitoring**

*“Each operator shall take prompt remedial action to correct any deficiencies indicated by the [external corrosion control] monitoring.”*

SED noted the following Cathodic Protection (CP) packages with deficient pipe-to-soil potential (P/S) measurements for time periods exceeding SDGE’s next routine monitoring intervals as defined in SDGE’s Gas Standard G8019.4.3, and as required in 49 CFR §192.465(d). The CP Packages with deficient P/S readings without prompt remedial actions are listed in Table 1 below.

Federal Pipeline and Hazardous Materials Safety Administration’s (PHMSA) Inspection Guideline and Interpretation #PI-89-006 for 192.465(d) states that, as a rule of thumb, PHMSA interprets “prompt” as having the “correction completed by the time of the next scheduled monitoring”.

SED recognizes that in some instances, factors (e.g. environmental, permitting, moratoriums and etc.) outside of SDGE’s control, may delay restoring deficient CP packages. However, SED considers these factors generally familiar to SDGE when planning troubleshooting methods and mitigating such deficiencies.

SED assesses necessary corrective maintenance measures, as written in G8019.4.6, were not initiated in a timely manner, efficiently pursued or completed promptly by SDGE to restore adequate CP to the affected areas. Therefore, SDGE is in violation of GO 112<sup>1</sup> Referencing 49 CFR, Part 192 Section 192.465(d).

**Table 1:** Deficient CP Packages

District	Area	Date of Down Read	Date of Last Read	# of Days Deficient	Type
North Coast	CP - STA 41.2	7/2/2014	9/9/2015	434	Imp
North Coast	CP - STA 188	9/2/2014	9/10/2015	373	Imp
North Coast	CP - MAG 300.09	7/1/2013	8/11/2015	771	Mag
North Coast	CP - MAG 25.09	5/14/2013	5/31/2015	747	Mag
North Coast	CP - STA 123.2	3/6/2013	5/31/2015	816	Imp

**2). Title 49 CFR §192.469 – External Corrosion Control: Test stations.**

*“Each pipeline under cathodic protection required by this subpart must have sufficient test stations or other contact points for electrical measurement to determine the adequacy of cathodic protection.”*

On October 1, 2015, SED's staff observed SDGE inspection of its Mag Area 29.09 facilities (P/S station readings).

- At TP-10.0: 6030 Paseo Del Norte, Caltrans MSA, anode station; a P/S reading of -1.413mV was noted.
- At TP-10.0(alt): 6020 Paseo Del Norte, a P/S reading of -0.907mV was noted.
- At Field Pt.-01: 5950 Avenida Encinas, a P/S reading of -0.832mV was noted.
- At Field Pt.-02: 5825 Avenida Encinas, a P/S reading of -0.742mV was noted.
- At TP-9.0: 5555 12" Box Paseo DI Norte, a P/S reading of -0.604mV was noted.

TP-9.0 is at the extent of Mag Area 29.09; the very most distant test station. There are no intermediate test stations between TP-9.0 and TP-10(alt.). At SED's request, SDGE accessed two intermediate contact points (Field Pt.-01, and Field Pt.-02) and obtained P/S readings below the area -0.850mV criteria. These intermediate points were not on the Mag Area 29.09 record map, nor found on maintenance records; and were not easily located as both points were unmarked and covered with paving.

Due to regional soil conditions, SDGE uses multiple criteria for its CP areas, and applying multiple criteria within a CP area is common. In this case, SDGE CP monitoring records and SED field inspection show TP-9.0 consistently near or well below -0.850mV area minimum criteria. When TP-9.0 is found deficient, repairing CP protection locally or boosting the Mag anode beds at the opposite end of the CP requires the condition of intermediate pipe and lateral facilities to be known. There are not sufficient test stations on Mag Area 29.09 to determine the adequacy of cathodic protection along the entire protected pipeline. Therefore, SDGE is in violation of GO 112<sup>1</sup> Referencing 49 CFR, Part 192 Section 192.469.

#### Title 49 CFR §192.491(a) – Corrosion Control Records

*“Each operator shall maintain records or maps to show the location of cathodically protected piping, cathodic protection facilities, galvanic anodes, and neighboring structures bonded to the cathodic protection system. Records or maps showing a stated number of anodes, installed in a stated manner or spacing, need not show specific distances to each buried anode.”*

On October 1, 2015, SED's staff observed SDGE inspections of its Mag Area 29-09 facilities. SDGE's field personnel performed P/S voltage potential measurements. The Mag Area 29-09 CP map does not display current field conditions. TP-9.0 is not located at address stated on work order records; it is not clear if anode found was intended for test station or an adjacent mag area. Pipeline facilities did not match newer road alignment; street valve boxes, and jumper stations could not be located, paved over or removed and did not match the CP map. Lateral valves and facilities were not in locations shown on the map. The CP map was inaccurate in locating intermediate contact points. The CP maps did not show anode location and the number of anodes at each location. Therefore, SDGE is in violation of GO 112<sup>1</sup> Referencing 49 CFR, Part 192 Section 192.491(a).

## II. Concerns, Recommendations, and Observations Summary

1. SED did not observe documentation regarding SDGE's program review of personnel to determine the effectiveness and safety of procedures.

Title 49 CFR, Part 192 Section 192.605(b)(8) states:

*“Periodically reviewing the work done by operator personnel to determine the effectiveness and adequacy of the procedures used in normal operation and maintenance and modifying the procedure when deficiencies are found.”*

Please provide supportive documents showing supervisor review of CP-Survey, CP-10, Bridge and Span Inspection effectiveness of field personnel as compared to SDGE procedures.

2. SED observed third party solar installations utilized SDGE's gas facilities as grounding components for their solar systems. Please provide proof of service and record copies of letters sent to solar companies, notifying them they are prohibited from utilizing SDGE facilities as grounding components or connecting to SDGE's facilities for any reason.
3. SED noted that SDGE's Leak Repair Order information was inconsistently filled out or omitted in the 'Work Performed' section. SED recommends changing this sections title to 'Additional Work Performed' and adding a check box item (such as 'none') stating no additional work is required.
4. SED noted that SDGE Bridge and Span Checklist forms BS-39 and BS-55 were incorrectly filled out. Please provide documentation, utilizing Item 1 above, to established effectiveness of personnel as compared to SDGE procedures.
5. SED noted that SDGE Bridge and Span Checklist forms should include span vent information to be verified during span inspection. SED recommends SDGE add 'vent information' as one of the checklist items to be inspected as a component of the span system.
6. On September 30, 2015, at 35070 Rice Canyon in Fallbrook, SED noted that the MSA and riser were exposed to vehicular traffic, and needs to be protection from damage. SED recommends remediation of conditions. Provide SED with an update and photo(s) of the remediation at this location
7. SED noted that the MSA and riser meter not connected on customer side, a locking device is needed on the shut-off valve. Additionally, the manifold had one service that was not capped. Provide SED with an update and photo(s) of the remediation at this location
8. SED noted that the mag area is in the process of being converted to an impressed CP system. Please provide to the SED a record of work completed in field and station CP criteria settings.
9. At TP-10.0(alt): 6020 Paseo Del Norte at Seafire Restaurant, SED noted that the aboveground (inactive) MSA and riser covered with foliage and partially buried in landscape soil. SED recommends notification to customer and remediation of conditions promoting corrosion. Provide SED with an update and photo(s) of the remediation at this location

10. SED observed Bridge and Span installations at specified locations. Please provide responses to the following concerns:

- BS-27 observed on 9/30/2015: Provide to SED documentation verifying whether the span require a valve station for long span conditions on public structures.
- BS-28 observed on 9/30/2015: pipe encased and had one vent. Provide to SED documentation comparing as-built with original design to verify the number of vents required.
- BS-35 observed on 10/1/2015: Pipe is resting on wooden beam support. Provide to SED pictures and inspection documentation to investigate possible coating damage in the interface area between the pipe and the wooden beam support
- BS-39 observed on 10/1/2015: Line marker signs need to be posted at both ends of the span. Provide to SED pictures and work order documenting this item completion.
- BS-41 observed on 10/1/2015: Line marker signs need to be posted at both ends of the span Provide to SED pictures and work order documenting this item completion.
- BS-45 observed on 9/30/2015: 2-inch diameter steel pipe, inspected on August 6, 2014 with no issue reported. Yet, span had no support. Based on field observation, the span may have had support at mid-span. By inspection, approximately 19 feet is unsupported. Please provide documentation to SED showing required design specification and as-built conditions for this span.
- BS-48 observed on 9/30/2015: pipe is a 2-inch customer service line spanning across a tidal wash to Del Mar Fairgrounds. Entire span is covered with sea water during high tide and exposed to atmosphere during low tide. Provide to SED the SDGE plan to monitor atmospheric corrosion and submerged salt water conditions. Provide records of assessment measures taken to test pipe coating integrity or effects of corrosive environment. SED recommends SDGE takes steps to eliminate this span condition.
- BS-57 observed on 9/30/2015: 2-inch diameter steel pipe, inspected August 1, 2014, No issue reported. Yet span is in deflection, sagging in contact with rocks, coating damaged.
- BS-59 observed on 10/1/2015: Verify the surface area between the pipe and support for evidence of void in coating. SED recommends repair. Please provide to SED the mitigating documents for this item.

11. SED observed continued deficient levels of cathodic protection remaining from prior CP point reads. Also, SED observed deficient levels of cathodic protection on station test points which had prior reads above the set lower voltage limit. Please provide to SED documentation stating the remediation of each deficient read location listed in Table 2, below.

**Table 2: SED Field Visit - Deficient CP Read Locations**

District	Area	Point	Location	SoCalGas Last Maintenance Date	Last Read (Volts)	SED Field Visit Read (Volts)
NORTH COAST	CP - MAG 29.09	TP 9.000	5555 12" Box Paseo Dl Norte in sidewalk W/O Car Cntry Dr Carlsbad	1/28/2014	-0.840	-0.604
NORTH EAST	CP - STA 135.1	TP 1.000 IO-100mV	140 14 TH W/O Juniper Escondido	3/1/2014	-0.475	-0.418
NORTH EAST	CP - STA 135.1	TP 1.000 ON-100mV	141 14 TH W/O Juniper Escondido	3/1/2014	-0.578	-0.466
NORTH EAST	CP - STA 135.3	TP 4.000 ON-100mv	1844 Summit Dr. N/O San Pasqual Rd	3/3/2014	-0.640	-0.620

			Escondido			
NORTH EAST	CP - STA 135.3	TP 4.000 ON-100mv	1844 Summit Dr. N/O San Pasqual Rd Escondido	3/3/2014	-0.700	-0.659
NORTH EAST	CP-10P YR7 RT11	CP10	911 S. Citrus Ave, Escondido	7/24/2013	-0.887	-0.801
NORTH EAST	Inactive Object	CP10	13351 Cree Dr Poway	9/5/2013	-0.680	-0.655
NORTH EAST	CP - MAG 25.09	TP 5.000	13133 Calle Caballeros E/O Ave De La Cantina San Diego	3/6/2014	-0.805	-0.716